THE IMPLEMENTATION OF MARGINAL COST PRICING TO THE DECISION MANAGEMENT

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ABSTRACT

The concept Marginal Cost Pricing (MCP) is particularly relevant when used in the environment of State-owned Enterprises, especially for companies engaged in the field of community service and has strategic position in national economic growth. Pricing controlled by the government and the House of Representatives is considered essential in order to preserve the stability of the business, avoid inflation and unemployment. Therefore it is important for the ministry of state enterprises to study the application of MCP concept, since relevant research results have shown that this concept has been widely used in developed countries such as American and European countries, especially in determining the electricity rates, train fare, bus fare, ships fare, and public utility rates provided by the government. In an environment of State-owned Enterprises there were none research result that led to the implementation of this concept due to the following difficulties: (a) the mechanism that is influenced by political considerations, (b) consideration of qualitative decision-makers without using a quantitative basis, (c) lack of dissemination of this concept and its nation-wide application is very limited, (d) there has been no comprehensive studies in the environment of state-owned enterprises related to the application of this concept, (d) in adequate financial statements or unadjusted yet since the accounting information is not realistic because of historical based reports, and others. Technically, the application of the MCP concept in the environment of state-owned enterprises can be done, however the willingness and commitment of stakeholders are very required. This is where the role of corporate management in the environment of state-owned enterprises or the ministry of state-owned enterprises as share holders as well as annual general meeting board initiate steps that begins with the study to convince the feasibility and benefits of the MCP implementation. The benefits are especially in improving the performance of related state-owned enterprises, reducing the burden of subsidies, and improving public services. Furthermore, this paper is expected to inspire the decision makers in the environment of state-owned enterprises such as state
electricity company, railway company, Pelni, Damri, Hospitals, Pertamina, Gas, and other public facilities provided by the government.

Keywords: The Application of MCP in Pricing, Pricing Mechanism, Selected Case Studies

INTRODUCTION
Marginal cost pricing (MCP) has long been recognized in many developed countries which are controlled by the state companies or private companies. Companies that are controlled by the government are related to the lives of the society, as a state enterprise, related to consumer protection, and concerning all actions of a company that are detrimental to the society. The purpose of this MCP concept is especially in the sense of achieving the optimal level if the company makes maximum profit, and getting minimum loss when the company gets loss. Maximum profit or minimum loss does not mean harming the consumer society but it means that the company internally determines certain quantity and price which have optimal results, which means raising or lowering the price (P) that can reduce the profitor increase the loss. The same thing also happens on the determination of the quantity(Q) of the optimal production or sales to increase or reduce the production or sale, that can reduce the profit or increase the loss company. This concept is ideal to be used in environments of State-owned Enterprises that expand the community service tasks and have become agents of economic development. This is particularly for state-owned enterprises which still rely on subsidies that weigh on state finances, or which are expected to come a source of revenue for the state budget, and is closely related to social and economic life, so the companies need funds for expansion on an ongoing basis, such as electricity (PLN), rail transport (PJKA), public buses (Damri), sea shipping (Pelni), airflight (Garuda and Merpati), clean water (PDAM), telecommunications (Telkom and Indosat), fuel (Pertamina), gas (PGN), freeway (Binamarga), airport runway (Angkasa Pura), as well as other infrastructure companies. In practice, the companies usually determine its selling price based on the cost price plus a certain amount of profit, and consider external factors and internal factors such as competition advantages which are reflected by the company's value. In case the company has value then the consumers will not take price as their priority, so that kind of companies can set higher prices than the prices of other goods. Unfortunately, not all companies are able to achieve high value and consumers have different income levels. For the people who have middle to lower in come, they generally consider the price factor; therefore a company must choose a pricing strategy based on the cost structure. Marginal cost approach is one of the marginal cost pricing techniques, where the price is set at the optimal level on condition that the marginal cost (MC) equals marginal revenue (MR). In the event that prices are set by the government and
parliament, the price of the various quantity of sales, the demand curve is horizontal, the MR curve coincides with the price (MR=P). MR obtained from the change in total revenue (∆TR) is divided by the change in quantity (∆Q) and the result is equal to the price (P). Levels of P and Q are achieved at optimal condition of MR=MC, or MR=P=MC, so this approach is commonly referred to as the marginal cost pricing (MCP). In other words, marginal cost pricing approach is the price level and quantity achieved at MR = MC as an optimal condition, which results in maximum profit or minimum loss. This approach applied to the price decision by the company at various markets such as monopoly, monopolistic, perfect competition and oligopoly market. In terms of pricing policy is controlled by the government, particularly in relation to the lives of many people and to the socio economic stability of society, then this approach is highly relevant to the especially the public utilities company such as electricity rates, water rates, telecommunications, and others. This approach can be used by the State Owned Enterprises (State-owned Enterprises) to control subsidies through pricing that result in the best condition for the consumer and result the lowest subsidies or minimum loss for the companies themselves. For private companies, this approach can be used in pricing strategies that can generate maximum profit. The company's decision to the target of production quantity, sales and price can be treated as the reference for the company to generate maximum profits. In terms of quantity and price realization are smaller or larger, then the maximum profit can not be maximally achieved. The question that arises is that this approach is not often found in the practice of decision-making, both at the state-owned and private companies. This approach is difficult to apply for companies, especially because (a) this approach requires the formulation of marginal cost and marginal revenue; therefore, the information structure of costs, revenue, pricing and demand structure is needed, (b) the price-related decision is not only based on cost structure but also on the company's value judgment, (c) the decision refers to the degree of price competition, (d) a simple approach is considered to be faster, such as "cost plus margin", (e) a more complicated approach is difficult to be understood by the decision maker, (f) the decision for subject by the management in determining the price, and (g) the cost structure reported by the accounting are often not realistic since it is based on historical records, profit management policy, and data manipulation to describe a particular performance that is not relevant to the actual conditions. To implement this MCP the completeness of information is required for more realistic calculation to support the management or decision makers. Based on the above description, the issue that arises is how to implement the concept of MCP in State-owned Enterprises environment to achieve optimal conditions in terms of the company's operations and customer service.

LITERATURE REVIEW AND RESEARCH HYPOTHESIS

Literature showed that the implementation of marginal cost pricing is commonly found in some countries, including (1) Implementation of Marginal Cost Pricing in

In the environment of State-owned Enterprises, this concept should be applied since it has already been proven in many developed countries, especially to pricing decision which are related to public service or in connection with the lives of many people such as electricity rates, transport rates, water rates, gas prices, fuel prices, and others. The goal is to obtain the optimal price that is not detrimental to the public and does not burden the subsidies from state budget. As a hypothesis, it is believed that the implementation of the concept is possible to implement by management of the company in State-owned Enterprises environment since its internal data is available. What is more important is that the ways the management company convince the stakeholders through communication between agencies, accuracy of data, and preparation of the calculation model in which its results can be quantitatively verified that the price set is to produce optimal financial performance.

RESEARCH METHODOLOGY
The concept of MC recommends pricing policy (P) and quantity (Q) that can be optimally achieved at the balance of marginal revenue (MR) and marginal cost (MC). Optimal conditions are achieved in the form of maximum profit or minimum loss, such as the recommendation of electricity rate in the preparation of Present and Future Financial Management of State Electricity Company (Aminullah Assagaf, 2014: P48-49).

For the implementation of MPC at the State-owned Enterprises environment, the time series-based secondary data is needed, which are based on the adjusted
financial report at a certain period. Cost structure and quantity of data are used in the econometric model sales to obtain the corresponding cost function as $C = a + bQ^2$. The value of $MC$ is obtained from the derivative of cost function, while $MR$ is obtained from the structure of the selling price and quantity. Furthermore, based on the balance of $MR = MC$ it is obtained the price state at the best conditions prevailing along the curve of $MC$. The condition of $MR = P$ as described below is a consequence of price fixing by the regulator and does not follow the market mechanism as generally occurred in State-owned Enterprises environment.

The results have showed that the State-owned Enterprises are still facing difficulties in the implementation of this MCP concept, due to (a) the basis for determining the price which still use numbers based on historical-based financial report so that the reports do not describe realistic conditions, (b) pricing mechanism through technical departments of government and the House of Representatives forward the interests of the political and less attention to the financial aspects and economic optimization, (c) lack of efforts in convincing the stakeholders, (d) few studies or experiences in the country which are related to the implementation of the MCP, and (e) the commitment of management and the company policy which are not supporting yet.

The following is the description of the concept of optimal condition achievement through the balance of $MR = MC$. Cost function ($C$) = $40 + 2Q^2$, marginal cost ($MC$) = $4Q$, the price ($P$) = $20$, total revenue ($TR$) = $20Q$, and marginal revenue ($MR$) = $20$. If $MR = MC$ is $20 = 4Q$, then $Q = 5$ with a maximum profit of Rp 10 is obtained. In the case of $Q$ is smaller or larger than 5, then the profit gained is not as optimal as the profit ability calculations described below. Profit ability is optimally obtained at $Q = 5$ so that anything that is larger or smaller than that will produce smaller profit, which is $Profit(Q=5)$ = $10$ (maximum profit), $Profit(Q=6)$ = $8$ and $Profit(Q=4) = 8$ as described below. If the cost function change where the fixed cost increase to 60 or $C = 60 + 2Q^2$ and the profit ($F$) = $20Q - 60 - 2Q^2$. The balance of $MR = MC$ is achieved at position of $Q = 5$, which results minimum loss, therefore it means that the bigger or smaller than that will result a greater loss. $Loss(Q=5) = -10$ (minimum loss), $Loss(Q=6) = -12$ and $Loss(Q=4) = -12$ as described above.
Figure 1

In relation to the optimal pricing policy, Evan J. Douglas in his book Managerial Economic - Analysis and Strategy (P 423s/d427) suggested the balance approach of MR=MC in the calculation model of markup and marginal pricing in the following equation, where e; the price elasticity of demand, dP; price change, dQ; changes in the quantity of sales, P; price, Q; quantity of sales, and CM; contribution margin. Mark up pricing and marginal pricing are formulated as P=AVC+X% (AVC) or the equation P=AVC+CM is used. Marginal approach requires MR = MC, started from TR = PQ, and then proceeded with the calculation of MR and MC. MR=P+Q(dP/dQ) = P+(QP/P. DP/dQ) = P(1 +Q/P. DP/dQ) =P(1 +1/e). The conditions of MR = MC that MC=P(1 +1/e), or the price level P=MC(1/e+1).

Since MC equals AVC then the equation of the price level above can be P=AVC(1/e+1). Further more, (e /e+1) +1/(e +1) =1 or (e /e+1) =1/(1 /e+1), then the optimal price level in the equation P=AVC (1-1/e+1) or P=AVC(-1 /e+1) AVC can be obtained. For example, e=-5 then the price set is P=AVC+(1/-5+1) AVC or P=AVC+(-1 /-4) AVC or P=AVC+(25%) AVC with make up 25% of AVC. Prices formulated in this model reflect the optimal price markup which is derived from the balance of MR=MC.

RESEARCH AND DISCUSSION
The implementation of MCP is widely used in developed countries, especially by companies associated with public service and which the prices are controlled by the government as a national regulator. This MCP concept should be nationally implemented in the State-owned Enterprises environment; however there has not been a study conducted which its result can lead to its implementation. Many
difficulties are faced by the state enterprises, such as already been explained in the preceding section, that should be overcome, unfortunately the regulator and the decision makers have not willingly realized and committed to the importance of this MCP concept to optimize the state-owned enterprises financial performance, to improve their service to the community, and to reduce the subsidies that burden the state budget.

**Pricing Mechanism in State-owned Enterprises Environment**

The price fixing in the environment of state-owned enterprises is done through (a) the decision of the annual general meeting, the approval of the government and the House of Representatives, (b) management decisions and approval of the annual general meeting, and (c) management decisions and approval of the board of commissioners, and (e) management decisions. The mechanism of price fixing by state-owned enterprises which are considered as strategic and affect the livelihood of the society is initiated from the management of state-owned enterprises to the Minister of State-owned Enterprises as stakeholder, to be decided in the form of annual general meeting, then be reviewed by the related department or the minister concerned and be reported to the Coordinating Minister and then decided by the government to be proposed to the House of Representatives.

Having discussed and approved by the House of Representatives, the price fixing proposal is returned to the government and to be followed up into action by the enterprises concerned. In this price fixing process, it requires comprehensive discussion in order to consider all aspects. In contrast to the prevailing price according to the market mechanism, the changes can be applied very rapidly adjusted to the development of industry and macro environment. The model of pricing policy set by the regulator should be more likely offering the implementation of MCP, since the process of price fixing can be discussed and is open to detailed discussion on the calculation mechanism and data used in the model. If necessary, this model can be audited by experts or expert staffs to ensure the accuracy of optimal rate calculation. In favorable conditions, the state enterprises will gain maximum benefit, while at the same time their loss are still subsidized, so that the price set will provide loss at the lowest rate and will result subsidy burden at its lowest. This optimal condition does not mean to the consumer society, but to set a price in such at certain quantity which can produce the best performance for the state enterprises. This is beneficial for both companies and consumers, since the company policy to set bigger or smaller price and quantity from the MCP simulation results will lead to not maximum profits or not minimum losses.

**Selected Case Studies of State-owned Enterprises**

One of the study case chosen in this study is the national electricity pricing by the State Electricity Company (PLN) which was established by the stakeholders of state enterprises (SOE), the technical department (Minister of DM) and the approval of House of Representatives. This mechanism is important since electricity service is considered to be strategically related to the life of society at
large and affected to the development of business and national industry. The establishment of electricity price fixing in different countries, as well as through the regulators control, is also conducted by supervising the calculation mechanism, data that are used and optimal quantitative models. MCP approach is now used as a technique that is widely used in the calculation of rates of public utilities companies in developed countries. The process of setting rates is mathematically formulated and becomes calculation standard in the price adjustments every time the economic variable changes or the operational cost structure of the company changes. With the adjustment method, the process is more practical, time is relatively short, and the adjustment is gradual or relatively small. Therefore, the process of initial implementation of this approach is needed, through empirical studies and socialization, in order to convince stakeholders.

**Price and Cost Structure**

The price and cost structures of the selected state enterprises can be described by using the time series data of state electricity company from 2005 to 2014.

**Table 1. The Structure of Rate and Cost in 2005/2014 (Rp/kWh)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Average rate</th>
<th>Operational AC</th>
<th>Surplus (deficit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>591</td>
<td>7.20</td>
<td>(119)</td>
</tr>
<tr>
<td>2006</td>
<td>628</td>
<td>9.34</td>
<td>(305)</td>
</tr>
<tr>
<td>2007</td>
<td>629</td>
<td>9.20</td>
<td>(290)</td>
</tr>
<tr>
<td>2008</td>
<td>653</td>
<td>12.45</td>
<td>(592)</td>
</tr>
<tr>
<td>2009</td>
<td>670</td>
<td>10.05</td>
<td>(335)</td>
</tr>
<tr>
<td>2010</td>
<td>699</td>
<td>10.12</td>
<td>(818)</td>
</tr>
<tr>
<td>2011</td>
<td>714</td>
<td>11.78</td>
<td>(464)</td>
</tr>
<tr>
<td>2012</td>
<td>726</td>
<td>11.81</td>
<td>(455)</td>
</tr>
<tr>
<td>2013</td>
<td>818</td>
<td>11.78</td>
<td>(360)</td>
</tr>
</tbody>
</table>

**Source:** Financial report and statistics of state electricity company

Price is set much lower than the company operational cost, not including the cost outside the operational cost, Electricity business becomes unattractive to businesses because the rates set are very cheap or result loss. Therefore, the goal is to ease the burden on the public and improve services; however the relatively low rates will cause losses and will reduce services since the market participants are dominated only by state electricity company as public utility. Losses occur because people use electricity beyond the normal requirements as explained in the law of demand; the lower the price, the more the product and services are used in the term of quantity. As a result, the state electricity company is notable to meet the needs of both consumers and potential consumers, while other companies but this state company are not interested since it is not worthy for them. Cheaper price and increased demand result bigger subsidy burden at for the state budget, thus inhibiting the development of other sectors and later are detrimental.
to society in general. For example, the financial fund for other development sectors such as education, health, and other infrastructures are in a weak position since the state budget is only used to subsidize the electricity. For example, based on financial report of the state electricity company in 2012 and 2013, the subsidies were Rp 103 billion and Rp 101 trillion.

**Price Implications on Subsidies**

The implication of very cheap price or unadjusted price for several years while the economic variables that affect the cost structure have increased, is uncontrollable subsidy burden as reported in *Manajemen Keuangan PLN Masa Kini dan Masa Depan* (Aminullah Assagaf, 2014). When this mechanism is still maintained, then the subsidy burden at the state budget, in the near future, will become more severe and even the consumers will feel entitled to the benefit of cheaper electricity rate. This is a very serious implication since the business and industry also enjoy the subsidy given. This can happen because even the government and House of Representatives are seen harder to give economic rate to those commercial sectors because considering that their productivity will be troubled, can result inflation and workers termination, even lead to the moving out of the industries to other countries such as Vietnam and Thailand. Besides, the entrepreneurs and the business and industries owners which are sometimes also as members of the House of Representatives, have access to the price adjustments decision making and have strong relationship with the power holder in the government.

This is where the importance of the MCP concept implementation in the environment of State-owned Enterprises take place to adjust the amount of subsidy may be adjusted from time to time with the development and changes in economic variables that can affect the company’s operational cost structure, as well as evaluate the performance of management which is not only service-based but also financial-based aspects. This is because financial report-based performance has some drawbacks since the data informed refer to the history of transactions and are not realistic anymore after some periods. This can be even more unrealistic if the management does creative accounting such as management earning, and others which tend to only describe the condition based on targeted condition such as expecting bonus, preparing initial public offering, avoiding the tax burden, and so on.

**The Application of MCP in Pricing**

By using time series data of state electricity company from 2005 to 2013, the following can be used to calculate the magnitude of the cost function parameters by using SPSS software, and furthermore is used to determine the optimal rates along the MC curve known as MCP. The selection of a cost function model is considered by the data distribution or scatter diagram, by also considering the determinant coefficient R2 adjuster. The cost function used is $C = a + bQ^2$, where the cost $C$, a constant, a directional coefficient and $Q$ is the
quantity of kWhsol do relectricity consumption. Data of operational cost and quantity of electricity sales (TWh) that are used in the SPSS simulation are:

**Table 2. Cost and Selling Price in 2005-2014**

<table>
<thead>
<tr>
<th>TH</th>
<th>Operational cost (Rp M)</th>
<th>Q (Twh price)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>76.024</td>
<td>107</td>
</tr>
<tr>
<td>2006</td>
<td>105.228</td>
<td>113</td>
</tr>
<tr>
<td>2007</td>
<td>111.505</td>
<td>121</td>
</tr>
<tr>
<td>2008</td>
<td>160.599</td>
<td>129</td>
</tr>
<tr>
<td>2009</td>
<td>135.175</td>
<td>133</td>
</tr>
<tr>
<td>2010</td>
<td>149.108</td>
<td>147</td>
</tr>
<tr>
<td>2011</td>
<td>185.640</td>
<td>158</td>
</tr>
<tr>
<td>2012</td>
<td>203.115</td>
<td>173</td>
</tr>
<tr>
<td>2013</td>
<td>220.911</td>
<td>188</td>
</tr>
</tbody>
</table>

**Source:** financial report and statistic of state electricity company

The result of SPSS simulation showed that the cost function was $C = 33,533 + 5.656Q^2$. The parameter of cost function is displayed on the following SPSS table:

**Table 3 SPSS Analysis Result**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>3052,980</td>
<td>18029,495</td>
<td>2.092</td>
<td>.075</td>
</tr>
<tr>
<td>$Q^2$</td>
<td>5.656</td>
<td>948</td>
<td>7.724</td>
<td>.000</td>
</tr>
</tbody>
</table>

Based on the above cost function, it is obtained that, $MC = 11,31Q$. If the actual prices at the last period is at $P = 818$ then $TR = 88Q$, so it is obtained that, $MR = 818$. Optimal conditions achieved at the balance of $MR = MC$, where $MR = PsO$ so that $theMCPs obtained from the equation $P = 11.31MC$ which means the $QoR = P / 11.31$. If the quantity of sales is amounted to 188 TWh based on the last period realization displayed on the above table, then the average rate is $P = 11.31 * 188 = Rp 2,121$ per kWh. If the realization of average price is Rp 818 per kWh based on the last period realization displayed on the above table, than the optimal sales quantity for $Q = 818 / 11.31 = 72$ TWh. Referring to the actual sales quantity $Q = 188$, the optimal price of Rp 2,121 per kWh, then the optimum profitability is achieved, which is a function of profitability $F = TR - TC$ or $F = (2,121 * 188) - 33,533 - (5.656 * 188^2)$, or the maximum profit of $F = 165,383$ trillion.
This shows that if the sales quantity is larger or smaller than Q = 188 then the profit is smaller, such as Q=180 profit F=165.061, and Q=200 profit F=164.505 trillion. Based on the price realization P=818 with optimal quantity 72TWh, then the optimal profitability is achieved, which is a function of profitability \( F = TR-TC \) or \( F = 818Q - 33,533 \) to 5.656 Q^2 or \( F = (818 \times 72) - 33,533 - (5.656 \times 72^2) \) or the minimum loss of \( F = 3,925 \) trillion. This shows that if the sales quantity is greater or smaller than Q=72 then the loss will be greater, for example, Q=60 Rp 4.788 trillion loss and Q = 80 Rp 4.256 trillion loss. The realization of sales quantity 188TWh exceeds the optimal 72TWh, so that the optimal price of Rp2,121 results maximum profit. On the other hand, the realization of the average selling price of Rp 818 per kWh is smaller than the optimal price of Rp 2,121 per kWh so that the optimal quantity of 72 TWh produces minimum loss. Minimum loss or maximum advantage referred to above are described in the following figure.

**Figure 2**

If the time series data of 2005 to 2013 is used for the application of the concept of MCP, the description of operational profit ability of state electricity company can be obtained is displayed in the following table:

<table>
<thead>
<tr>
<th>Year</th>
<th>P ($11.31 x G)</th>
<th>Q (TWh)</th>
<th>TR Est</th>
<th>C Est</th>
<th>Profit Est</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>1.371</td>
<td>107</td>
<td>126.875</td>
<td>54.877</td>
<td>72.004</td>
</tr>
<tr>
<td>2007</td>
<td>1.274</td>
<td>113</td>
<td>126.83</td>
<td>54.877</td>
<td>72.004</td>
</tr>
<tr>
<td>2008</td>
<td>1.371</td>
<td>121</td>
<td>166.283</td>
<td>116.678</td>
<td>49.605</td>
</tr>
<tr>
<td>2009</td>
<td>1.459</td>
<td>129</td>
<td>188.284</td>
<td>127.675</td>
<td>60.609</td>
</tr>
<tr>
<td>2010</td>
<td>1.222</td>
<td>135</td>
<td>204.871</td>
<td>135.969</td>
<td>68.903</td>
</tr>
<tr>
<td>2011</td>
<td>1.666</td>
<td>147</td>
<td>246.41</td>
<td>156.239</td>
<td>89.183</td>
</tr>
<tr>
<td>2012</td>
<td>1.705</td>
<td>158</td>
<td>260.319</td>
<td>173.992</td>
<td>100.920</td>
</tr>
<tr>
<td>2013</td>
<td>1.945</td>
<td>172</td>
<td>334.294</td>
<td>200.850</td>
<td>133.740</td>
</tr>
</tbody>
</table>

**Source:** financial report and statistics of state electricity company
Thus, so forth that the concept of MCP can be applied in the short term or applied every time any changes in the economic and financial variables that affect the cost structure of the company's operations.

**The Application of MCP through Gradual and Periodic Price Adjustment**

The application of MCP is based on the previously agreed calculations by the stake holders of the company. After this calculation model has already been trusted by the parties, the data have been audited, and have been verified by masters and experts, as well as has been supported by the government and the House of Representatives, this MCP concept can be applied in determining the national electricity rates. Its establishment strategies can be done by considering the adjustment of each quarter or semester, and is initiated by giving socialization to the consumers, for both the calculation techniques and the quantitative models used. Technically it can be applied to describe the optimal rate through discrimination rates but with the average rate equal to MC.

The commitment of company management is consistently required to update its calculations, socialize and convince the parties to adjust the rate needed effectively. The strategy and policy of the company management are required especially in the preparation of the calculations model, the data used, and the communication between departments that play significant role in pricing decisions.

**CONCLUSION AND LIMITATION OF THE STUDY**

**Conclusion**

1. The implementation of MCP concept is widely used in developed countries, especially by public companies in pricing electricity rates, water rates, train fare, bus fare, public transport fare, ship rates, and rates of public facilities provided by the government.

2. The MCP concept has not become the focus of national researches or studies, although it has been realized that this concept provides optimal solution or companies, especially state-owned enterprises.

3. The MCP concept can be used to improve the financial performance of state-owned enterprises, as well as reduce the amount of subsidies that burden the state budget. For instance, the case study of state electricity company showed that the company was subsidized for each Rp 103 trillion and Rp 101 trillion in 2012 and 2013.

4. The difficulties faced by the implementation of this MCP concept can basically be overcome if the stake holders support its implementation. This is where the role of the company management is needed to promote this concept and convince all parties about the MCP concept to be implemented effectively.

5. The implementation of the MCP concept need preparation strategy, covers the preparation of the calculations model, the audit mechanism of the data used, effective communication between relevant institutions and technical implementation of price discrimination system when needed.
Limitation of the Study

This study is limited by the availability of secondary data provided by the state-owned enterprises. Many state companies which are very relevant with the implementation of the MCP concept, but are facing difficulties in the aspects of the information system limitation which is presented in the form of public information. Therefore, this study is limited to the financial information and statistics of utilization presented by State Electricity Company via www.pln.co.id. If there required information was available, then the calculation of rates based on the MCP could have been done by internal state companies. Therefore its implementation would be easier to conduct by each internal state company.

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